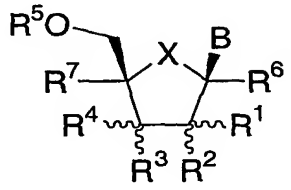
WHAT IS CLAIMED IS:

1. A compound of structural formula I:

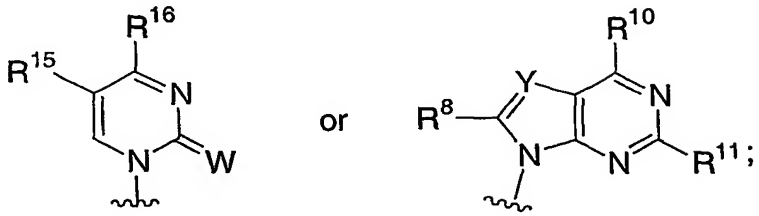


(I)

or a pharmaceutically acceptable salt thereof; wherein

n is 0, 1, or 2;

B is



X is CH_2, CHF, CF_2, or $C{=}CH_2$;

Y is N or C-R^9;

W is O or S;

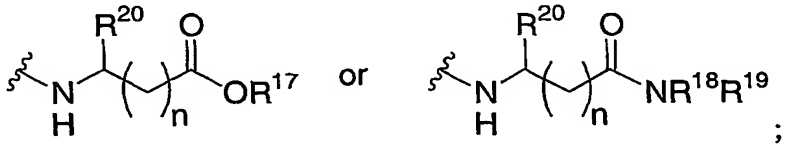
R^1 is C_{2-4} alkenyl, C_{2-4} alkynyl, or C_{1-4} alkyl, wherein alkyl is unsubstituted or substituted with hydroxy, amino, C_{1-4} alkoxy, C_{1-4} alkylthio, or one to three fluorine atoms;

R^2 is hydrogen, fluorine, amino, hydroxy, mercapto, C_{1-4} alkoxy, C_{1-8} alkylcarbonyloxy, or C_{1-4} alkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, cyano, azido, halogen, hydroxy, mercapto, amino, C_{1-4} alkoxy, C_{1-8} alkylcarbonyloxy, C_{2-4} alkenyl, C_{2-4} alkynyl, and C_{1-4} alkyl, wherein alkyl is unsubstituted or substituted with hydroxy, amino, C_{1-4} alkoxy, C_{1-4} alkylthio, or one to three fluorine atoms;

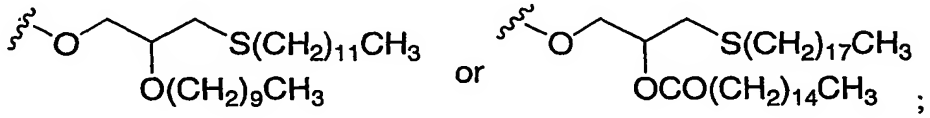
R^5 is hydrogen, C_{1-10} alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or $P(O)R^{13}R^{14}$;

R^6 and R^7 are each independently hydrogen, methyl, hydroxymethyl, or fluoromethyl;
R^8 is hydrogen, C_{1-4} alkyl, C_{2-4} alkynyl, halogen, cyano, carboxy, C_{1-4} alkyloxycarbonyl, azido, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, hydroxy, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} alkylsulfonyl, or (C_{1-4} alkyl)$_{0-2}$ aminomethyl;
R^9 is hydrogen, halogen, cyano, nitro, $NHCONH_2$, $CONR^{12}R^{12}$, $CSNR^{12}R^{12}$, $COOR^{12}$, $C(=NH)NH_2$, hydroxy, C_{1-3} alkoxy, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, or C_{1-3} alkyl, wherein alkyl is unsubstituted or substituted with one to three groups independently selected from halogen, amino, hydroxy, carboxy, and C_{1-3} alkoxy;
R^{10} and R^{16} are each independently hydrogen, hydroxy, mercapto, halogen, C_{1-4} alkoxy, C_{1-4} alkylthio, C_{1-8} alkylcarbonyloxy, C_{3-6} cycloalkylcarbonyloxy, C_{1-8} alkyloxycarbonyloxy, C_{3-6} cycloalkyloxycarbonyloxy, $-OCH_2CH_2SC(=O)C_{1-4}$ alkyl, $-OCH_2O(C=O)C_{1-4}$ alkyl, $-OCH(C_{1-4}$ alkyl$)O(C=O)C_{1-4}$ alkyl, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, C_{3-6} cycloalkylamino, di(C_{3-6} cycloalkyl)amino, or an amino acyl residue having structural formula



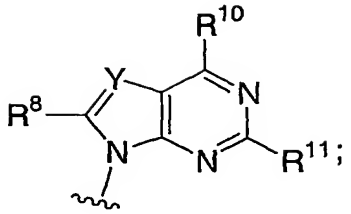
;

R^{11} is hydrogen, hydroxy, halogen, C_{1-4} alkoxy, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, C_{3-6} cycloalkylamino, or di(C_{3-6} cycloalkylamino);
each R^{12} is independently hydrogen or C_{1-6} alkyl;
R^{17}, R^{18}, and R^{19} are each independently hydrogen or C_{1-6} alkyl;
R^{13} and R^{14} are each independently hydroxy, $-OCH_2CH_2SC(=O)C_{1-4}$ alkyl, $-OCH_2O(C=O)OC_{1-4}$ alkyl, $-NHCHMeCO_2Me$, $-OCH(C_{1-4}$ alkyl$)O(C=O)C_{1-4}$ alkyl,



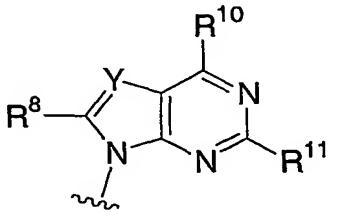
;

R^{15} is hydrogen, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-4} alkylamino, CF_3, or halogen; and
R^{20} is hydrogen, C_{1-4} alkyl, or phenyl C_{0-2} alkyl;
with the proviso that when B is

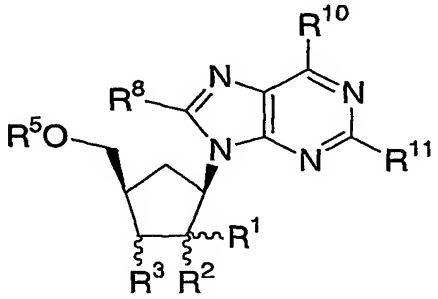


X is CH_2; Y is N; R^{10} is NH_2; R^2 and R^3 are α-OH; and R^4, R^5, R^6, R^7, R^8, and R^{11} are hydrogen, then R^1 is not β-methyl.

2. The compound of Claim 1 wherein B is



3. The compound of Claim 2 of structural formula II:



(II)

wherein

R^1 is C_{1-3} alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;

R^2 is hydroxy, fluoro, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;

R^3 is hydrogen, halogen, hydroxy, amino, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;

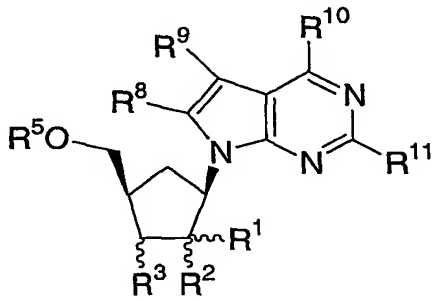
R^5 is hydrogen, C_{1-8} alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or PO_3H_2;

R^8 is hydrogen, amino, or C_{1-4} alkylamino; and

R^{10} and R^{11} are each independently hydrogen, halogen, hydroxy, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, or C_{3-6} cycloalkylamino;
with the proviso that when R^{10} is NH_2, R^2 and R^3 are α-OH, and R^5, R^8, and R^{11} are hydrogen, then R^1 is not β-methyl.

4. The compound of Claim 3 wherein
R^1 is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;
R^2 is hydroxy, fluoro, or methoxy;
R^3 is hydrogen, fluoro, hydroxy, amino, or methoxy;
R^5 is hydrogen or $P_3O_9H_4$;
R^8 is hydrogen or amino; and
R^{10} and R^{11} are each independently hydrogen, fluoro, hydroxy, or amino;
with the proviso that when R^{10} is NH_2, R^2 and R^3 are α-OH, and R^5, R^8, and R^{11} are hydrogen, then R^1 is not β-methyl.

5. The compound of Claim 2 of structural formula III:



(III)

wherein
R^1 is C_{1-3} alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;
R^2 is hydroxy, fluoro, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;
R^3 is hydrogen, halogen, hydroxy, amino, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;
R^5 is hydrogen, C_{1-8} alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or PO_3H_2;
R^8 is hydrogen, amino, or C_{1-4} alkylamino;
R^9 is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and
R^{10} and R^{11} are each independently hydrogen, halogen, hydroxy, amino,

C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, or C_{3-6} cycloalkylamino.

6. The compound of Claim 5 wherein

R^1 is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;

R^2 is hydroxy, fluoro, or methoxy;

R^3 is hydrogen, fluoro, hydroxy, amino, or methoxy;

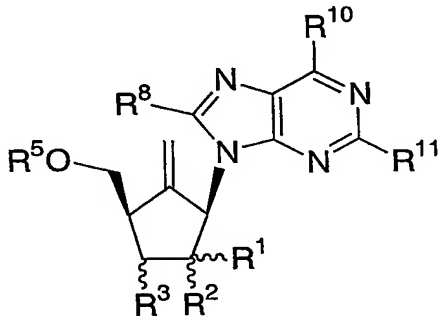
R^5 is hydrogen or $P_3O_9H_4$;

R^8 is hydrogen or amino;

R^9 is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and

R^{10} and R^{11} are each independently hydrogen, fluoro, hydroxy, or amino.

7. The compound of Claim 2 of structural formula IV:



(IV)

wherein

R^1 is C_{1-3} alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;

R^2 is hydroxy, fluoro, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;

R^3 is hydrogen, halogen, hydroxy, amino, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;

R^5 is hydrogen, C_{1-8} alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or PO_3H_2;

R^8 is hydrogen, amino, or C_{1-4} alkylamino; and

R^{10} and R^{11} are each independently hydrogen, halogen, hydroxy, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, or C_{3-6} cycloalkylamino.

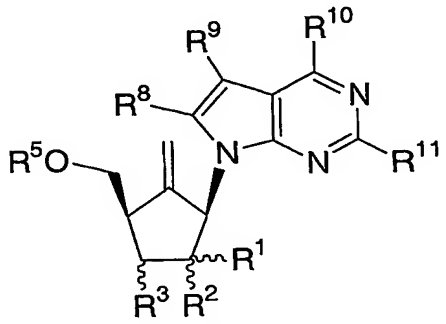
8. The compound of Claim 7 wherein

R^1 is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;

R^2 is hydroxy, fluoro, or methoxy;

R^3 is hydrogen, fluoro, hydroxy, amino, or methoxy;
R^5 is hydrogen or $P_3O_9H_4$;
R^8 is hydrogen or amino; and
R^{10} and R^{11} are each independently hydrogen, fluoro, hydroxy, or amino.

9. The compound of Claim 2 of structural formula V:



(V)

wherein
R^1 is C_{1-3} alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;
R^2 is hydroxy, fluoro, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;
R^3 is hydrogen, halogen, hydroxy, amino, C_{1-3} alkoxy, or C_{1-8} alkylcarbonyloxy;
R^5 is hydrogen, C_{1-8} alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or PO_3H_2;
R^8 is hydrogen, amino, or C_{1-4} alkylamino;
R^9 is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and
R^{10} and R^{11} are each independently hydrogen, halogen, hydroxy, amino, C_{1-4} alkylamino, di(C_{1-4} alkyl)amino, or C_{3-6} cycloalkylamino.

10. The compound of Claim 9 wherein
R^1 is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;
R^2 is hydroxy, fluoro, or methoxy;
R^3 is hydrogen, fluoro, hydroxy, amino, or methoxy;
R^5 is hydrogen or $P_3O_9H_4$;
R^8 is hydrogen or amino;
R^9 is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and
R^{10} and R^{11} are each independently hydrogen, fluoro, hydroxy, or amino.

11. The compound of Claim 2 selected from the group consisting of:

2-amino-7-[(1β,2αOH,3α,4β)-2,3-dihydroxy-4-hydroxymethyl-2-methyl-5-methylenecyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-d]pyrimidin-4-one;

2-amino-7-[(1R,2S,3R,4R)-2,3-dihydroxy-4-hydroxymethyl-2-methyl-5-methylenecyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-d]pyrimidin-4-one;

(1αOH,2α,3β,5β)-5-(4-amino-7*H*-pyrrolo[2,3-d]pyrimidin-7-yl)-3-hydroxymethyl-1-methyl-4- methylenecyclopentane-1,2-diol;

(1S,2R,3R,5R)-5-(4-amino-7*H*-pyrrolo[2,3-d]pyrimidin-7-yl)-3-hydroxymethyl-1-methyl-4- methylenecyclopentane-1,2-diol;

(1β,2αOH,3α,4β)-2-amino-9-[2,3-dihydroxy-4-(hydroxymethyl)-2-methyl-5-methylenecyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

2-amino-9-[(1R,2S,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methyl-5-methylenecyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

(1S,2R,3R,5R)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methyl-4-methylenecyclopentane-1,2-diol;

(1αOH,2α,3β,5β)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methyl-4-methylenecyclopentane-1,2-diol;

(1RS,2R,3R,5R)-5-(4-amino-7*H*-pyrrolo[2,3-*d*]pyrimidin-7-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

(1S,2R,3R,5R)-5-(4-amino-7*H*-pyrrolo[2,3-*d*]pyrimidin-7-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

(1RS,2R,3R,5R)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

(1S,2R,3R,5R)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

2-amino-9-[(1R,2RS,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

2-amino-9-[(1R,2S,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

2-amino-7-[(1R,2RS,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-*d*]pyrimidin-4-one; and

2-amino-7-[(1R,2S,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-*d*]pyrimidin-4-one;

and the corresponding 5'-triphosphates;
or a pharmaceutically acceptable salt thereof

12. A pharmaceutical composition comprising a compound of Claim 1 and a pharmaceutically acceptable carrier.

13. A method of treating RNA-dependent RNA virus infection comprising administering to a mammal in need of such treatment a therapeutically effective amount of a compound according to Claim 1.

14. The method of Claim 13 wherein said RNA-dependent RNA virus infection is a hepatitis C virus (HCV) infection.

15. The method of Claim 14 in combination with a therapeutically effective amount of another agent active against HCV.

16. The method of Claim 15 wherein said agent active against HCV is a 2'-*C*-Me-ribonucleoside; ribavirin; levovirin; thymosin alpha-1; interferon-β; an inhibitor of NS3 serine protease; an inhibitor of inosine monophosphate dehydrogenase; interferon-α or pegylated interferon-α, alone or in combination with ribavirin or levovirin.

17. The method of Claim 16 wherein said agent active against HCV is interferon-α or pegylated interferon-α, alone or in combination with ribavirin.

18. Use of a compound of Claim 1 for treatment of RNA-dependent RNA virus infection in a mammal.

19. The use of Claim 18 wherein said RNA-dependent RNA virus infection is HCV infection.

20. Use of a compound of Claim 1 in the manufacture of a medicament for treatment of RNA-dependent RNA virus infection in a mammal.

21. The use of Claim 20 wherein said RNA-dependent RNA virus infection is HCV infection.